

IN THE CLAIMS:

Please amend the claim as follows:

1. (Currently Amended) A TO-CAN type optical module comprising:

a stem provided with optical components mounted on its upper surface and having a hole formed therethrough;

a plurality of pins electrically connected to the optical components via the hole, said plurality of pins including a signal-carrying pin protruding from the lower surface of said stem; and

a pair of ground pins spaced at both ends of a protruding portion of said signal-carrying pin by a predetermined interval, wherein the edges of said ground pins are partially removed to accommodate smaller interval separating the protruding portion of said signal-carrying pin and said ground pins to the intervals separating signal lines and ground lines of a PCB for mounting the signal-carrying pin and the ground pins thereon.

2. (Currently Amended) The optical module as set forth in claim 1, wherein the interior of the hole of said stem has a desired characteristic impedance by the impedance matching of a coaxial cable.

3. (Original) The optical module as set forth in claim 1, wherein the lower surface of said stem has a desired characteristic impedance according to the dimensions of the protruding portion of said signal-carrying pin and said ground pins, and an interval between the protruding portion of said signal-carrying pin and said ground pins.

4. (Original) The optical module as set forth in claim 1, wherein said signal-carrying pin includes a cylindrical portion passing through said stem and a hexahedral portion protruding from the lower surface of said stem.

5. (Canceled)

6. (Original) The optical module as set forth in claim 4, wherein edges of said ground pins are partially removed so as to prevent the occurrence of shorts when said signal-carrying pins and said ground pins are connected to said signal lines and said ground lines.

7. (Original) The optical module as set forth in claim 1, wherein a ground property of the optical module is improved by increasing the dimensions of said ground pins.

8. (Original) The optical module as set forth in claim 1, wherein the optical components are one of a laser diode (LD) and a photo diode (PD).

9. (New) A TO-CAN type optical module comprising:

a stem provided with optical components mounted on its upper surface and having a hole formed therethrough;

a plurality of pins electrically connected to the optical components via the hole, said plurality of pins including a signal-carrying pin protruding from the lower surface of said stem; and

a pair of ground pins spaced at both ends of a protruding portion of said signal-carrying pin by a predetermined interval, wherein said signal-carrying pin includes a cylindrical portion passing

through said stem and a hexahedral portion protruding from the lower surface of said stem.

10. (New) The optical module as set forth in claim 9, wherein the interior of the hole of said stem has a desired characteristic impedance by the impedance matching of a coaxial cable.

11. (New) The optical module as set forth in claim 9, wherein the lower surface of said stem has a desired characteristic impedance according to the dimensions of the protruding portion of said signal-carrying pin and said ground pins, and an interval between the protruding portion of said signal-carrying pin and said ground pins.

12. (New) The optical module as set forth in claim 9, wherein the edges of said ground pins are partially removed to accommodate smaller interval separating the protruding portion of said signal-carrying pin and said ground pins to the intervals separating signal lines and ground lines of a PCB for mounting the signal-carrying pin and the ground pins thereon.

13. (New) The optical module as set forth in claim 9, wherein edges of said ground pins are partially removed so as to prevent the occurrence of shorts when said signal-carrying pins and said ground pins are connected to signal lines and ground lines.

14. (New) The optical module as set forth in claim 9, wherein a ground property of the optical module is improved by increasing the dimensions of said ground pins.

15. (New) The optical module as set forth in claim 9, wherein the optical components are one of a laser diode (LD) and a photo diode (PD). xs

16. (New) A TO-CAN type optical module comprising:
a stem provided with optical components mounted on its upper surface and having a hole formed therethrough;
a plurality of pins electrically connected to the optical components via the hole, said plurality of pins including a signal-carrying pin protruding from the lower surface of said stem; and
a pair of ground pins spaced at both ends of a protruding portion of said signal-carrying pin by a predetermined interval, wherein the lower surface of said stem has a desired characteristic impedance according to the dimensions of the protruding portion of said signal-carrying pin and said ground pins, and an interval between the protruding portion of said signal-carrying pin and said ground pins.

17. (New) The optical module as set forth in claim 16, wherein the interior of the hole of said stem is filled with glass sealing powder, said glass-sealed hole has a desired characteristic impedance by the impedance matching of a coaxial cable.

18. (New) The optical module as set forth in claim 18, wherein the edges of said ground pins are partially removed to accommodate smaller interval separating the protruding portion of said signal-carrying pin and said ground pins to the intervals separating signal lines and ground lines of a PCB for mounting the signal-carrying pin and the ground pins thereon.

19. (New) The optical module as set forth in claim 18, wherein said signal-carrying pin includes a cylindrical portion passing through said stem and a hexahedral portion protruding from the lower surface of said stem and edges of said ground pins are partially removed so as to prevent the occurrence of shorts when said signal-carrying pins and said ground pins are connected to signal lines and ground lines.

20. (New) The optical module as set forth in claim 17, wherein the glass-sealed hole functions as a waveguide.

21. (New) The optical module as set forth in claim 17, wherein the glass-sealed hole has a permittivity of substantially 4.1.